

- a. Voltage: 13.5-15.5 volts.
- b. Amperage: 0-5 amps.

If the charging current is considerably lower than specified, check the alternator and/or the regulator. Less likely is the possibility that the voltage is too high; in that case the voltage regulator is probably at fault.

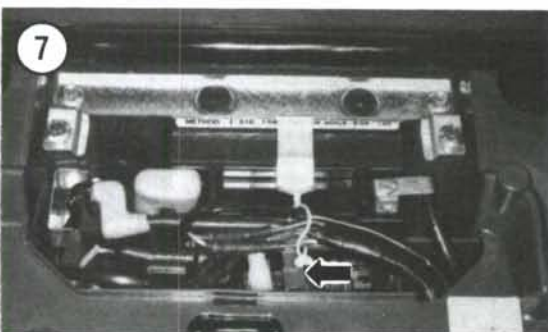
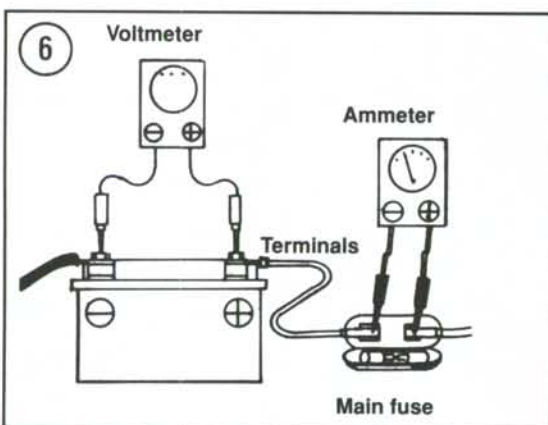
9. Test the separate charging system components as described under the appropriate headings in this chapter.
10. After the test is completed, disconnect the voltmeter and ammeter.
11. Reinstall the main fuse.
12. Install the battery cover, bolts and the seat.

## ALTERNATOR

Alternator rotor and stator assembly removal and installation procedures are covered in Chapter Four.

### Stator Charge Coil Testing

It is not necessary to remove the stator plate to perform the following tests. In order to get accurate



resistance measurements the stator assembly and coil must be warm (minimum temperature is 20° C—68°F). If necessary, start the engine and let it warm up to normal operating temperature.

1. Remove the seat.
2. Disconnect the white 3-pin electrical connector from the alternator.
3. Use an ohmmeter set at  $R \times 10$  and check resistance between each yellow wire on the alternator side of the connector.
4. The specified resistance is 0.09-0.11 ohms. If there is continuity (indicated resistance) and it is within the specified resistance, the coil is good. If there is no continuity (infinite resistance) or the resistance is less than specified, the coil is bad and the stator assembly must be replaced (the individual coil cannot be replaced).
5. Use an ohmmeter set at  $R \times 10$  and check resistance between each yellow wire and ground. If there is continuity (indicated resistance) between any yellow wire and ground the coil is shorted and the stator assembly must be replaced (the individual coil cannot be replaced).
6. Apply Dielectric Compound (available from a Honda dealer) to the electrical connector prior to reconnecting it. This will help seal out moisture.
7. Make sure the electrical connector is free of corrosion and is completely coupled to each other.

## VOLTAGE REGULATOR/RECTIFIER

### Voltage Inspection

If the regulated voltage is out of specification, measure the voltage between the following terminals.

1. Remove the seat.
2. Remove the bolts (A, **Figure 3**) and remove the battery box cover (B, **Figure 3**).
3. Disconnect the voltage regulator/rectifier 3-pin electrical connector (**Figure 7**) containing 3 wires (one red, one green and one black).
4. Connect a 0-15 DC voltmeter between the wiring harness side of the battery charge line terminals as follows: positive(+) to red and negative (-) to green. There should be battery voltage present.
5. Connect a 0-15 DC voltmeter between the wiring harness side of the battery voltage feedback line terminals as follows: positive(+) to black and nega-

tive (-) to green. There should be battery voltage present with the ignition switch in the ON position.

6. Apply Dielectric Compound (available from a Honda dealer) to the electrical connector prior to reconnecting it. This will help seal out moisture.

7. Make sure the electrical connector is free of corrosion and is completely coupled.

## Testing

The multi-testers recommended by Honda for this test are as follows:

- Kowa digital type (Honda part No. KS-AHM-32-003).
- Kowa analog type (Honda part No. TH-5H).
- Sanwa analog type (Honda part No. 07308-0020001).

Tests must be made with these quality ohmmeters or the test readings may be false. The Sanwa multi-tester must be set at K ohms and the Kowa set at 100 ohms.

- Remove the seat.
- Remove the bolts (A, **Figure 3**) and remove the battery box cover (B, **Figure 3**).
- Disconnect the voltage regulator/rectifier 3-pin electrical connector (**Figure 7**) containing 3 wires (one red, one green and one black).

## CAUTION

*Tests may be performed on the voltage regulator unit but a good one may be damaged by someone unfamiliar with the test equipment. If you feel unqualified to perform the test, have the test made by a Honda dealer or substitute a known good unit for a suspected one.*

4. Refer to **Figure 8** for ohmmeter positive (+) and negative (-) test lead placement, wire color and specified resistance values.

5. If the voltage regulator fails any of these tests, the unit is faulty and must be replaced.

6. Apply Dielectric Compound (available from a Honda dealer) to the electrical connector prior to reconnecting it. This will help seal out moisture.

7. Make sure the electrical connector is free of corrosion and is completely coupled.

## Removal/Installation

- Place the vehicle on level ground and set the parking brake.
- Remove the seat and rear fender as described in Chapter Thirteen.

## NOTE

*It is not necessary to remove the rear fender assembly, but it does allow additional work room.*

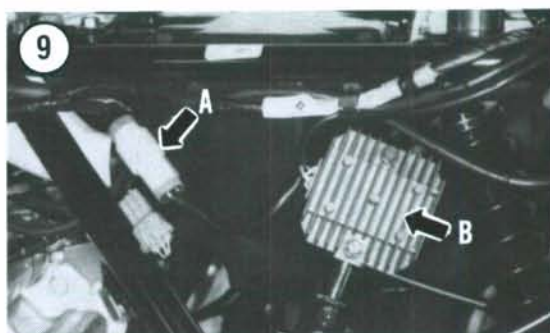
- Remove the seat.
- Remove the bolts (A, **Figure 3**) and remove the battery box cover (B, **Figure 3**).
- Disconnect the battery negative lead (**Figure 4**).
- Disconnect the voltage regulator/rectifier 3-pin electrical connector (**Figure 7**) containing 3 wires (one red, one green and one black) adjacent to the battery.
- Disconnect the other electrical connector containing 3 yellow wires (A, **Figure 9**), adjacent to the left-hand side of the air filter air box.
- Remove the bolts securing the voltage regulator (B, **Figure 9**) to the frame and remove the voltage regulator.
- Install by reversing these removal steps while noting the following:

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## VOLTAGE REGULATOR TESTS

<div>+ probe</div> <div>- probe</div>	Red	Green	Black	Yellow
Red		∞	∞	∞
Green	1-20		1-20	0.5-10
Black	20-100	10-50		15-80
Yellow	0.5-10	∞	∞	

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- Apply Dielectric Compound (available from a Honda dealer) to the electrical connectors prior to reconnecting them. This will help seal out moisture.
- Make sure all electrical connectors are free of corrosion and are completely coupled.

## CAPACITOR DISCHARGE IGNITION

All vehicle models are equipped with a DC-capacitor discharge ignition system (DC-CDI), a solid-state system that uses no breaker points.

This type of CDI system improves ignition performance in the low engine speed range. The ignition circuit capacitor is charged by the battery instead of the exciter coil of the alternator. This system stabilizes the voltage applied to the ignition coil since it is not affected by engine speed. The 12 volts supplied by the battery are boosted to approximately 200 volts by the booster circuit, which then charges the capacitor.

As the piston approaches the firing position, a pulse from the pulse generator is used to trigger the thyristor. When this happens the thyristor allows the capacitor to discharge quickly into the primary circuit of the ignition coil, where the voltage is stepped up in the secondary circuit to a value sufficient to fire the spark plug.

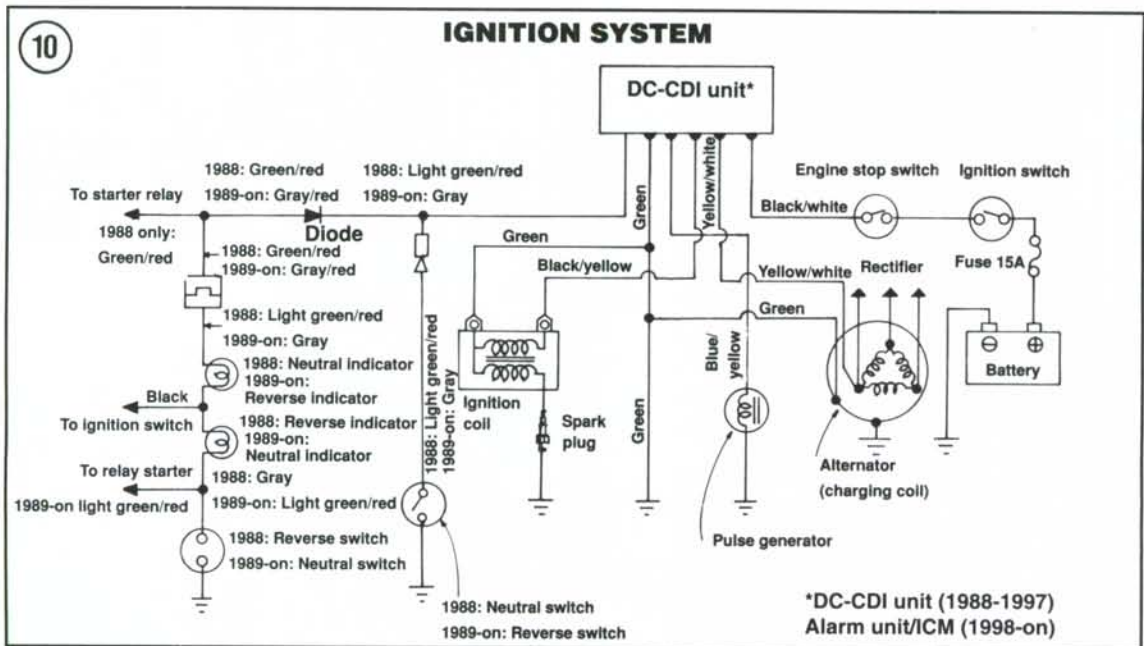
The system also has a feature that allows the system to provide a spark only when the engine is cranking. This is accomplished by detecting the alternator charging current.

The ignition system is shown in **Figure 10**. Note that there are quite a few changes between the 1988 models and the 1989-on models. These changes include different wire colors and the different location of several switches.

## DC-CDI Precautions

Certain measures must be taken to protect the capacitor discharge system. Damage to the semiconductors in the system may occur if the following precautions are not observed.

- Never disconnect any of the electrical connections while the engine is running.
- Apply Dielectric Compound (available from a Honda dealer) to all electrical connectors prior to reconnecting them. This will help seal out moisture.
- Make sure all electrical connectors are free of corrosion and are completely coupled to each other.
- Do not substitute another type of ignition coil.
- The DC-CDI unit is mounted within a rubber vibration isolator. Always be sure that the isolator is in place when installing the unit.



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